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Urinary Symptoms and Urodynamic Findings in Women with Pelvic Organ Prolapse: Is There a Correlation? Results of an Artificial Neural Network Analysis

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Abstract

Background: International official guidelines recommend urodynamic (UDS) evaluation in patients with pelvic organ prolapse (POP). However, the real benefit of this examination is still the subject of heated and controversial debate. Therefore, we aimed to assess the correlation between urinary symptoms and UDS findings in women with POP through the implementation of a sophisticated computer-based technology in the outpatient workup.

Design, setting, and participants: A prospective cohort study was performed in a single, tertiary, urogynaecologic referral department, enrolling consecutive women seeking care for pelvic floor dysfunctions.

Intervention: Patients underwent clinical and urodynamic evaluation. Data regarding baseline characteristics, symptoms, anatomic, and urodynamic findings were gathered for each patient. Multiple linear regression (MLR) and artificial neural networks (ANNs) were performed to design predicting models.

Results and limitations: A total of 802 women with POP were included. POP quantification stages and baseline data poorly correlated to final UDS findings. Stress urinary incontinence and overactive bladder were both independently associated to each UDS diagnosis, including detrusor overactivity (DO), urodynamic stress incontinence (USI), and mixed urinary incontinence (USI plus DO). Receiver operating characteristic comparison confirmed that ANNs were more accurate than MLR in identifying predictors of UDS diagnosis, but none of these methods could successfully overcome UDS. Case-control studies are needed to confirm our findings.

Conclusions: Despite the current debate based on the actual value of UDS in women with POP, even the implementation of ANN, a sophisticated computer-based technology, does not permit an accurate diagnosis just on the basis of symptoms or avoiding UDS. Therefore, in women with POP, especially if scheduled for surgery, UDS should be considered as mandatory, since misleading counselling could result in unpleasant unexpected events.

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1. Introduction

Pelvic organ prolapse (POP) and lower urinary tract symptoms (LUTS) are widespread conditions that often occur together [1]. In particular, the association of POP and urinary incontinence (UI) is common, with a prevalence ranging from 15% to 80% [2–4].

The recommendations from the International Continence Society (ICS) and the International Consultation on Incontinence (ICI) clearly state that urodynamic (UDS) evaluation in the preoperative workup of women scheduled for POP repair is mandatory before surgery [5,6].

Indeed, continent women with severe POP, and even those presenting voiding difficulties due to urethral kinking, may become incontinent after repairing the anatomic descent [4,7].

Similarly, symptoms of overactive bladder (OAB) are common in women with POP, especially when the anterior compartment is involved, mainly due to the distension of stretch receptors of the urethelium due to the descent of the trigone into the anterior vaginal wall and/or to urethral obstruction, which causes detrusor contractions [8,9]. Although OAB symptoms usually improve after POP repair, the persistent OAB often reflects an underlining condition of detrusor overactivity (DO) [8].

Therefore, the preoperative UDS evaluation might be useful not only to unmask occult UDS stress incontinence, thus enabling the caregiver to recommend specific surgical procedures if needed, but also to identify women with concomitant DO who could also subsequently need anti-muscarinic drug administration.

Nevertheless, the cost effectiveness of preoperative UDS is still an important issue since UDS findings rarely affect clinical decision making in terms of choice of POP reconstructive procedures [7]. In addition, several authors recently introduced less invasive alternatives to UDS, including the bladder wall thickness measurement and the development of specific validated questionnaires [10,11].

In the past few years, statistical science used in medical reports has dramatically improved. When multifactorial variables are potentially involved in a clinical phenomenon, such as the development of pelvic floor dysfunction (PFD), two different, sophisticated, statistical analyses can be used: multivariate analysis and the artificial neural networks (ANN) model. The ANN is a computer-based technology that simulates a biologic neuronal system with similar characteristics in terms of structural architecture and functional proprieties. Like neurons, the ANN acquires knowledge through a learning-phase process and this represents the real cornerstone and point of strength of the ANN [1,12].

In a recent paper, we have investigated the relationships between LUTS (including stress urinary incontinence [SUI], urgency, voiding dysfunction, sexual dysfunction, and POP symptoms) and anatomic findings in women with POP by applying the ANN technology [1]. Therefore, we aimed to investigate whether the application of this sophisticated technology could successfully help, or even replace, the

UDS examination for the preoperative workup in women with POP.

2. Methods

This was a prospective cohort study performed in a single urogynaecologic unit at the University of Insubria, Varese, Italy. The final statistical analysis was completely blinded. Consecutive women seeking care or referred for urogynaecologic symptoms were evaluated and included between January 2007 and January 2010. Only women with POP who underwent UDS evaluation were considered eligible for inclusion. Exclusion criteria were the absence of POP (stage 0) at physical examination and/or the presence of concomitant neurologic disorders, in order to avoid theoretical confounding biases.

Clinical evaluation included medical history, physical examination, a frequency-volume chart and urinalysis, and the administration of the Italian validated version of the ICI short form (ICI-SF), the Women Irritative Prostate Symptoms Score (W-IPSS), and the Prolapse Quality of Life (P-QOL) questionnaire [13–15].

Physical examination was performed with the patient in the lithotomic position and POP was described during a maximal Valsalva accordingly to the POP quantification (POP-Q) system [5]. All women were studied with UDS (including uroflowmetry, filling cystometry, and pressure/flow study) by trained urogynaecologists using a standardised protocol in accordance with the Good Urodynamic Practices Guidelines of the ICS. At the end of the filling phase, a mechanical repositioning of the prolapse was obtained using a properly sized ring pessary [16].

Data were prospectively entered into a specifically designed digital database. To better manage the statistical analysis for the present study, pelvic floor symptoms were grouped according to their standardised definition and then dichotomized as *present* versus *absent* for each resulting category, as follows:

- SUI: complaint of involuntary loss of urine on effort or physical exertion, or on sneezing or coughing
- OAB wet/dry: presence of urinary urgency, usually accompanied by frequency and nocturia, with or without urgency UI, in the absence of urinary tract infection (UTI) or other obvious pathology
- Voiding dysfunction: hesitancy, slow streaming, intermittency, straining to void, feeling of incomplete bladder emptying, or urinary retention
- Recurrent UTI: at least three symptomatic and medically diagnosed UTIs in the previous 12 mo. The previous UTIs should have resolved prior to a further UTI being diagnosed.

All methods, definitions, and units are in agreement with the ICS standardisation of terminology [5]. Final revision of the study protocol was approved by the local ethics committee and institutional review board.

2.1. Statistical analysis

Statistical analysis was performed with SPSS v.17 for Windows (IBM Corp, Somers, NY, USA). Descriptive statistics were used for baseline data. Correlation with the *phi* coefficient were used to investigate relationships between UDS diagnosis, anatomic findings, and urinary symptoms. Multiple linear regression (MLR) was computed to identify which variables were independent predictors of each UDS diagnosis. Variables that achieved significance ($p < 0.05$) or association ($p \leq 0.10$) in the full method of MLR were entered in a subsequent analysis with a stepwise method. A four-layer (one input layer, two hidden layers, and one output layer) feed-forward ANN with the multilayer perceptron (MLP) function was finally built for UDS diagnosis (dependent variables)

to scale each independent variable (predictors) according to its statistical importance. The input layer contains the predictors. The hidden layers contain unobservable nodes, or units. The value of each hidden unit is a function of the predictors; the exact form of the function depends in part upon the network type and in part upon user-controllable specifications. The output layer contains the responses. The feed-forward architecture establishes that the connections in the network flow forward from the input layer to the output layer without any feedback loop [1].

To develop the ANN, cases were randomly assigned to the training group (80.0%) or to the testing group (20.0%) through a generator of random numbers. The back propagation of the error was applied as a learning rule using the online training method: Synaptic weights were updated after each training data record [17]. Normal corrected adjustment was applied for continuous variables. Predicted probability for each dependent variable resulting from the ANN and MLR for the entire study group was saved and used for the building of receiver operating characteristics (ROC) curves. ROC curves were used to compare the accuracy of ANN and MLR in predicting examined UDS diagnosis. Statistical significance was considered achieved when $p < 0.05$.

3. Results

During the study period, 1758 women seeking care for PFDs were evaluated at our department. Three-hundred eighty-nine (22.1%) women had no evidence of POP (stage 0 according to the POP-Q classification) and were excluded from the study. We also excluded 261 (14.8%) women with diagnosed or suspected neurologic disorders and we did not perform UDS in 306 (17.4%) patients refusing a priori any surgical treatment. UDS was performed in 802 (45.6%) eligible women who were definitely included for the final statistical analysis.

Descriptive and frequency statistics regarding baseline characteristics (including demographic, obstetric, gynaecologic, and surgical history), and the overall urogynaecologic evaluation (including urinary symptoms, UDS findings, and POP-Q evaluation) are summarized in Tables 1 and 2.

DO, USI, and mixed incontinence (USI plus DO) were found in 150 (18.7%), 271 (33.8%), and 195 (24.3%) cases, respectively. For the remaining 186 (23.2%) women, UDS was normal. We defined UDS as normal when neither USI nor DO were found/diagnosed during filling cystometry and provocative manoeuvres.

To better understand which relationships exist between UDS findings, urinary symptoms, and anatomic descent in women with POP, a correlation panel was built. Data are summarized in Table 3. In this series, UDS diagnosis and anatomic findings were poorly correlated. Stress incontinence results were positively correlated to USI ($\phi = 0.192$; $p < 0.0001$) and mixed UI ($\phi = 0.176$; $p < 0.0001$) and inversely correlated to DO ($\phi = -0.189$; $p < 0.0001$). Similarly, OAB results were positively correlated to DO ($\phi = 0.173$; $p < 0.0001$) and mixed UI ($\phi = 0.165$; $p < 0.0001$) and inversely correlated to USI ($\phi = -0.141$; $p < 0.0001$) (Table 3).

Multivariate analyses with MLR were then performed to identify those variables potentially affecting UDS diagnosis. Data are summarized in Table 4 and show that, consistent with data in Table 3, the presence of SUI was an independent

Table 1 – Baseline characteristics of women included for final analysis

	Patients, no. (n = 802)
Age, yr, mean \pm SD	59.7 \pm 11.4
BMI, kg/m ² , mean \pm SD	26.2 \pm 4.2
Obese (BMI \geq 30 kg/m ²), no. (%)	139 (17.3)
Sexually active, no. (%)	494 (61.6)
Menopausal, no. (%)	584 (72.8)
HRT, no. (%)	147 (18.3)
Recurrent UTI, no. (%)	135 (16.8)
Previous vaginal deliveries, no. (range)	2 (0–12)
Macrosomal infant (\geq 4000 g), no. (%)	237 (29.6)
Operative delivery (vacuum/forceps), no. (%)	117 (14.6)
Previous gynaecologic surgery, no. (%)	203 (25.3)
Previous hysterectomy, no. (%)	159 (19.8)
Previous UI surgery, no. (%)	34 (4.2)
Previous POP surgery, no. (%)	159 (19.8)

SD = standard deviation; BMI = body mass index; HRT = hormone replacement therapy; UTI = urinary tract infection; UI = urinary incontinence; POP = pelvic organ prolapse.

predictor for each UDS diagnosis, in particular for DO (odds ratio [OR]: 4.41; 95% confidence interval [CI], 2.87–6.78); $p < 0.0001$; Wald: 45.8); USI (OR: 2.70; 95% CI, 1.88–3.87; $p < 0.0001$; Wald: 28.9); and mixed UI (OR: 2.11; 95% CI, 1.39–3.20; $p < 0.0001$; Wald: 12.4). Similarly, the presence of OAB was an independent predictor for DO (OR: 3.29; 95% CI, 1.95–5.54; $p < 0.0001$; Wald: 20.0); USI (OR: 2.01; 95% CI, 1.95–2.82; $p < 0.0001$; Wald: 16.4); and mixed UI (OR: 1.94; 95% CI, 1.26–2.27; $p = 0.002$; Wald: 9.1). POP-Q stage 3–4 was an independent predictor for DO (OR: 1.75; 95% CI, 1.03–2.96; $p = 0.038$; Wald: 4.3) and mixed UI (OR: 2.10; 95% CI, 1.28–3.45; $p = 0.003$; Wald: 8.5). Ongoing hormone replacement therapy was an independent favourable variable for DO. Operative delivery and posterior compartment involvement were independent predictors for USI. On the

Table 2 – Symptoms, urodynamic findings, and pelvic organ prolapse quantification (POP-Q) assessment of women included in final analysis

	Patients, no. (%) (n = 802)
Symptoms	
Stress incontinence	496 (61.8)
OAB wet/dry	550 (68.6)
Voiding dysfunction	267 (33.3)
Urodynamic finding	
Normal urodynamic	186 (23.2)
DO	150 (18.7)
USI	271 (33.8)
Mixed incontinence (USI + DO)	195 (24.3)
Any DO	344 (42.9)
Any USI	466 (58.1)
POP-Q evaluation	802 (100)
Stage 1	398 (49.6)
Stage 2	193 (24.1)
Stage 3–4	211 (26.3)
Anterior compartment involvement	448 (55.9)
Central compartment involvement	555 (69.2)
Posterior compartment involvement	51 (6.4)
Single compartment involvement	571 (71.2)
Multiple compartment involvement	231 (28.8)

OAB = overactive bladder; USI = urodynamic stress incontinence; DO = detrusor overactivity.

Table 3 – Correlation between urodynamic diagnosis and pelvic organ prolapse quantification (POP-Q) findings of 802 women included in final analysis*

POP-Q	Normal UDS	Pure DO	USI	Mixed UI	Any DO	Any USI
Stage 1	-0.209 ^b	0.048	0.061	0.094 ^a	0.122 ^a	0.131 ^b
Stage 2	0.043	0.014	-0.074 ^a	0.027	0.036	-0.039
Stage 3–4	0.195 ^b	-0.069	-0.004	-0.134 ^b	-0.169 ^b	-0.111 ^a
Anterior compartment	0.143 ^b	-0.031	-0.044	-0.064	-0.077 ^a	-0.095 ^a
Central compartment	0.002	-0.040	0.037	-0.006	-0.038	0.029
Posterior compartment	0.026	0.045	-0.078 ^a	0.019	0.053	-0.058
Single/multiple compartment	0.198 ^b	0.044	0.070 ^a	0.078 ^a	0.101 ^a	0.134 ^b
Stress incontinence	-0.219 ^b	-0.189 ^b	0.192 ^b	0.176 ^b	0.006	0.337 ^b
OAB wet/dry	-0.169 ^b	0.173 ^b	-0.141 ^b	0.165 ^b	0.270 ^b	0.014
Voiding dysfunction	0.120 ^a	0.007	-0.68	-0.49	-0.37	-0.104 ^a

UDS = urodynamics; DO = detrusor overactivity; USI = urodynamic stress incontinence; UI = urinary incontinence; OAB = overactive bladder.
 * Data are expressed as *phi* coefficients.
^a *p* < 0.05.
^b *p* < 0.001.

other hand, urinary symptoms were also common in women in whom the UDS results were normal. Indeed, OAB (OR: 1.90, 95% CI, 1.31–2.74; *p* = 0.001; Wald: 11.5) and stress incontinence (OR: 1.91; 95% CI, 1.30–2.79; *p* = 0.001; Wald: 11.1) were both independent predictors of normal UDS together with POP stage 1 (OR: 1.94; 95% CI, 1.30–2.88; *p* = 0.001; Wald: 10.8).

To confirm these data and build a predictive model for each variable to determine PFD symptoms, an ANN with the MLP function was built. The resulting synaptic weight of the

ANN for each entered variable was scaled (Fig. 1). ROC curves were built to compare the accuracy of the ANN and MLR in determining each dependent variable (UDS diagnosis) (Figs. 1 and 2). The ANN recorded a significant higher accuracy in predicting each analyzed symptom than MLR, as shown by the ROC curves comparison in those figures.

In addition, when the independent variables revealed by MLR were compared with those showing higher importance in the ANN, a high correspondence was found between the two statistical methods.

Table 4 – Multiple logistic regression with the Wald statistics of variables potentially affecting urodynamic findings*

Variables	Normal UDS	Pure DO, OR (95% CI)	USI, OR (95% CI)	Mixed USI + DO, OR (95% CI)	Any DO, OR (95% CI)	Any USI, OR (95% CI)
Age, yr	NS	1.03 (1.02–1.05) ^b	0.98 (0.96–0.99) ^a	0.98 (0.96–0.99) ^a	NS	0.97 (0.95–0.98) ^b
BMI, kg/m ²	NS	NS	NS	0.95 (0.91–0.99) ^a	0.95 (0.92–0.98) ^a	NS
Menopausal	NS	NS	NS	NS	NS	NS
HRT	NS	0.53 (0.30–0.96) ^a	NS	NS	0.65 (0.43–0.98) ^a	NS
Recurrent UTI	NS	NS	NS	NS	NS	NS
Vaginal deliveries	NS	NS	NS	NS	NS	NS
Macrosomal infant (≥4000 g)	NS	NS	NS	NS	NS	NS
Operative delivery (vacuum/forceps)	NS	NS	1.69 (1.05–2.73) ^a	NS	NS	NS
Prior hysterectomy	NS	NS	NS	NS	NS	NS
Prior UI surgery	NS	NS	NS	NS	NS	NS
Prior POP surgery	NS	NS	NS	NS	NS	NS
POP Stage 1	1.94 (1.30–2.88) ^a	NS	NS	NS	NS	NS
POP Stage 2	NS	NS	NS	NS	NS	NS
POP Stage 3–4	NS	1.75 (1.03–2.96) ^a	NS	2.10 (1.28–3.45) ^a	2.51 (1.68–3.75) ^b	NS
Anterior compartment	NS	NS	NS	NS	NS	NS
Central compartment	NS	NS	NS	NS	NS	NS
Posterior compartment	NS	NS	3.36 (1.3–8.26) ^a	NS	NS	NS
Multiple compartments	NS	NS	NS	NS	NS	NS
Stress incontinence	1.91 (1.30–2.79) ^a	4.41 (2.87–6.78) ^b	2.70 (1.88–3.87) ^b	2.11 (1.39–3.20) ^b	1.57 (1.11–2.22) ^a	4.94 (3.50–6.98) ^b
OAB wet/dry	1.90 (1.31–2.74) ^a	3.29 (1.95–5.54) ^b	2.01 (1.44–2.82) ^b	1.94 (1.26–2.97) ^a	2.92 (2.04–4.18) ^b	NS
Voiding dysfunction	NS	NS	NS	NS	NS	NS

OR = odds ratio; CI = confidence interval; UDS = urodynamics; DO = detrusor overactivity; USI = urodynamic stress incontinence; UI = urinary incontinence; BMI = body mass index; HRT = hormone replacement therapy; UTI = urinary tract infection; POP = pelvic organ prolapse; OAB = overactive bladder; NS = not significant.

* The table displays the forward/stepwise analysis, which follows a previous regression with the overall variable set.

^a *p* < 0.05.

^b *p* < 0.001.

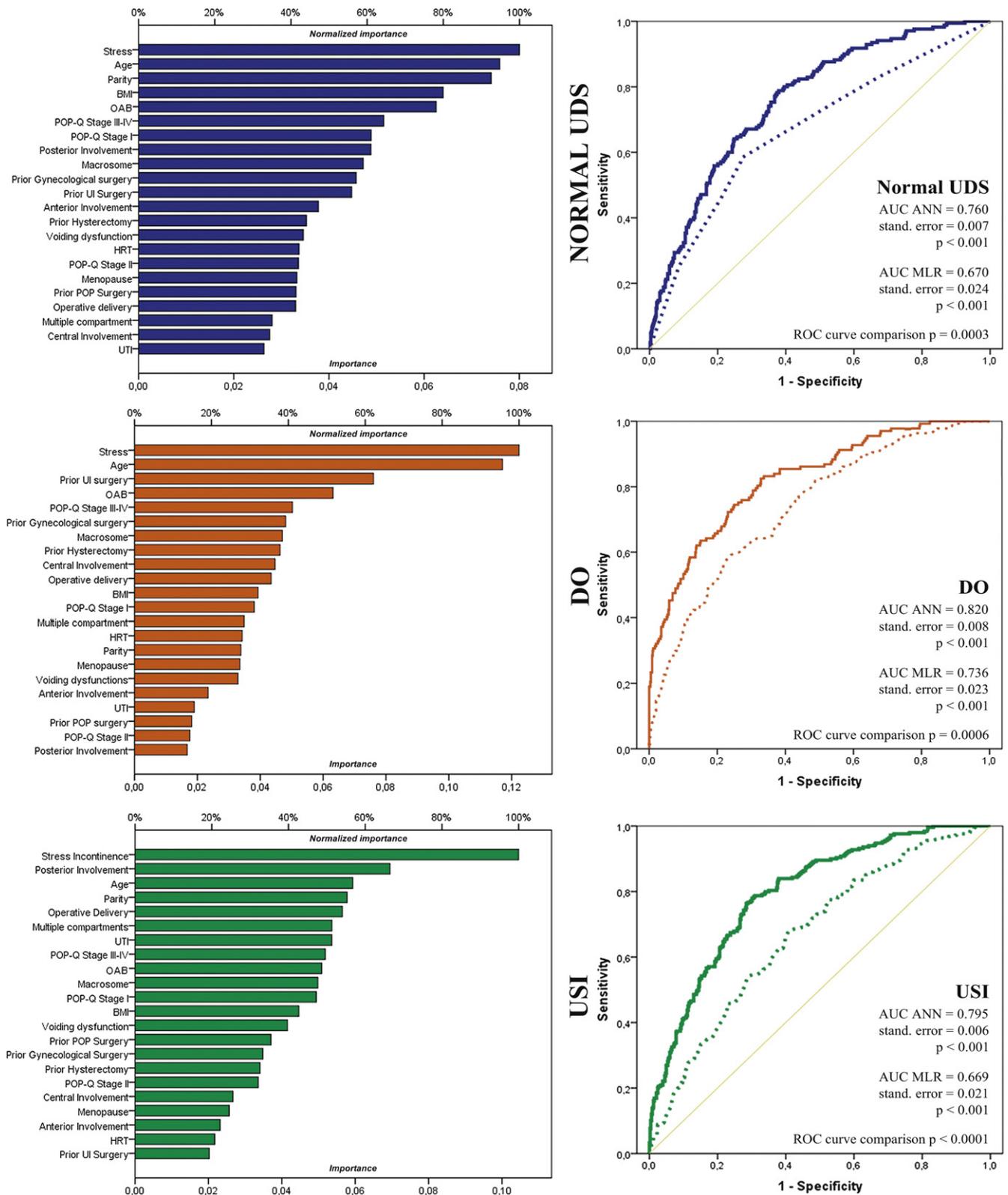


Fig. 1 – Artificial neural network (ANN): analysis of the importance the independent variables and receiver operating characteristics (ROC) comparison between ANN and multiple linear regression (MLR). The bar charts display the importance and the normalized importance for each independent variable in determining the ANN model for urodynamic (UDS) diagnosis (ie, normal UDS, pure detrusor overactivity [DO]). The ROC analysis displays the accuracy of ANN (continuous line) and MLR (dotted line) to predict pelvic floor dysfunction symptoms. ROC curves were described by the area under the curve (AUC), the standard error, and the asymptotic significance. ROC curve comparison was reported for each UDS diagnosis. ROC plotting refers to the overall study group for both statistical methods. BMI = body mass index; OAB = overactive bladder; POP-Q = pelvic organ prolapse quantification; UI = urinary incontinence; HRT = hormone replacement therapy; UTI = urinary tract infection.

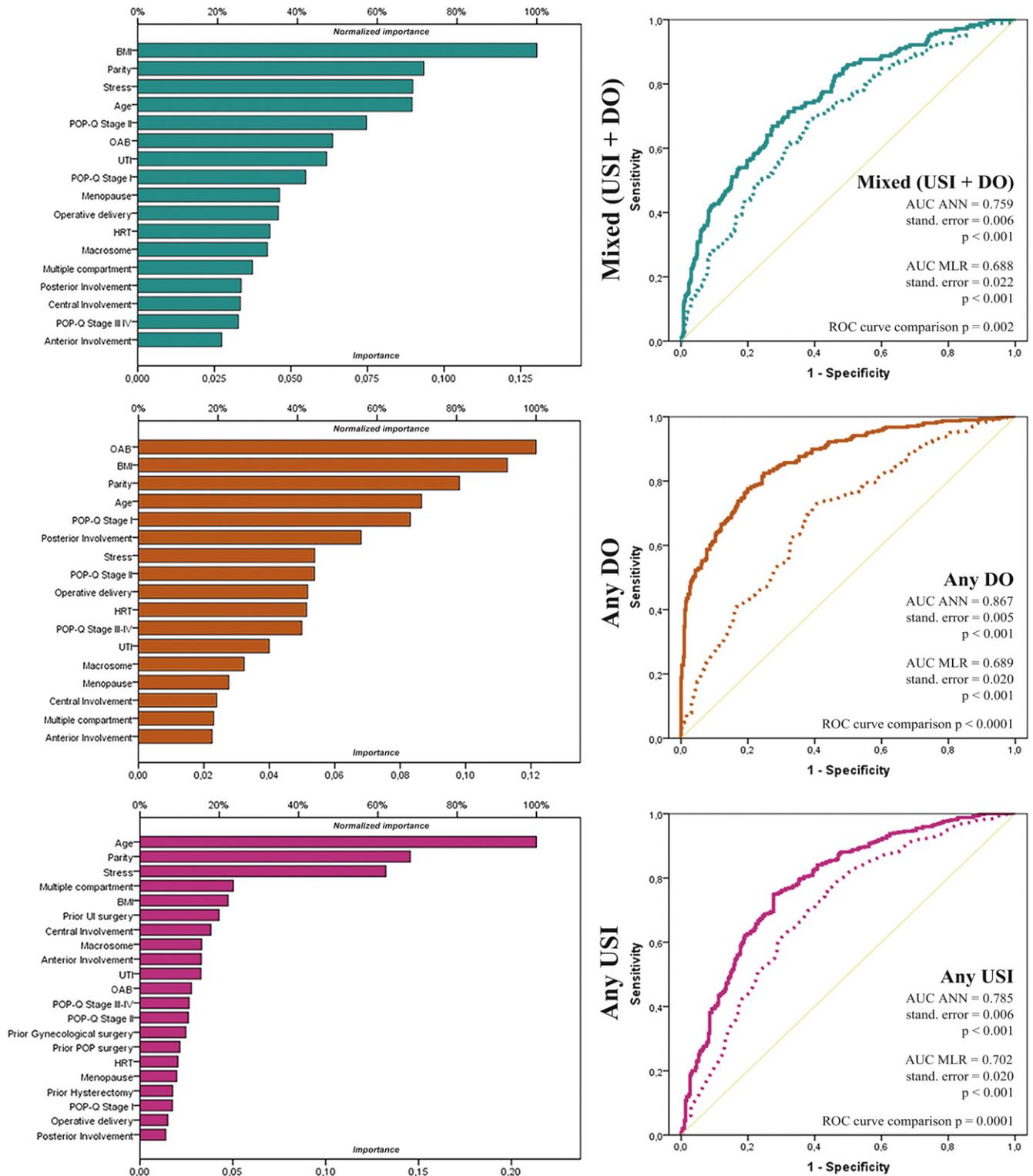


Fig. 2 – Artificial neural network (ANN): analysis of the importance the independent variables and receiver operating characteristics (ROC) comparison between ANN and multiple linear regression (MLR). The bar charts display the importance and the normalized importance for each independent variable in determining the ANN model for urodynamic (UDS) diagnosis. The ROC analysis displays the accuracy of ANN (continuous line) and MLR (dotted line) to predict pelvic floor dysfunction symptoms. ROC curves were described by the area under the curve (AUC), the standard error, and the asymptotic significance. ROC curve comparison was reported for each UDS diagnosis. ROC plotting refers to the overall study group for both statistical methods. BMI = body mass index; OAB = overactive bladder; POP-Q = pelvic organ prolapse quantification; UI = urinary incontinence; HRT = hormone replacement therapy; UTI = urinary tract infection.

4. Discussion

The association of POP and UI represents a common finding in the daily urogynaecologic practice. Starting from a patient's baseline characteristics and anatomic findings in women with POP, we aimed to evaluate whether a computer-based model could be successfully applied for predicting the final UDS diagnosis.

Moreover, in this series, the ROC comparison confirmed that the ANNs were more accurate than MLRs in discriminating variables involved in the final UDS diagnosis through a more user-friendly system [1,18–20].

The models resulting from both MLRs and ANNs analyses returned for each patient a value of *pseudoprobability* to achieve their UDS diagnosis. While MLRs barely achieved 70% probability to get to the final UDS diagnosis, the ANNs were able to achieve 100% certainty in only 0.2–6.6% of cases.

Therefore, despite the sophisticated statistical method adopted, UDS is still superior, since several reported associations between baseline data, symptoms, anatomic findings, and UDS diagnosis, even if statistically significant, are clinically useless. Indeed, symptoms such as SUI and OAB were commonly recorded as independent predictors of all the UDS diagnoses investigated, and mostly in association with the diagnosis. Our results could be considered a mathematic representation of the words of Bates, who described the bladder as “an unreliable witness” [21]. Forty years later this sentence is still surprisingly current; in women with POP, a decision process based only on clinical findings (without instrumental examination) could lead to misleading results. At present, the real usefulness of the preoperative UDS evaluation in women scheduled for POP repair is still controversial, since there are many questions regarding the real reliability of the UDS, and in particular, if its results can really impact the choice and efficacy of treatments [22,23].

However, any other alternative method alone cannot be found superior to UDS, including the administration of a validated questionnaire and the bladder wall measurement [10–24]. Similarly, Ward and colleagues evaluated the impact of UDS on the decision process and found that the performance of UDS modified the final treatment choice by 26.9% and 45.5% in cases of pharmacologic and surgical therapy, respectively [25].

These findings are even more enhanced in the elderly population, in particular in the oldest women in whom poorer correlations between storage symptoms and UDS findings are usually recorded. In a recently published paper [26] including a series of octogenarian females, UDS was useful in guiding patient management in 95% of cases.

We therefore feel that UDS has a key role in preoperative counselling of women scheduled for pelvic reconstructive procedures: It is essential to unmask particular conditions, such as occult USI, in order to inform patients that they could potentially still experience UI after POP repair. In addition, OAB is a widespread symptom in women with POP and patients usually report relief after surgery in a

significant proportion of cases; however, even women with POP, in whom DO represents the underlining condition of OAB, should be informed that they probably would require antimuscarinic medications after surgery and that therapy will be even more effective after prolapse repair [8,27]. This is a crucial element for the clinical decision-making process, since, as remarked by several studies, patients' satisfaction directly correlates to the expectation of care and to the final perception of received care [28].

Points of strength of the present study are the large number of women included and the implementation of ANNs in our statistical analysis, which represent a novelty in this field. We acknowledge that this series represents a population of women seeking care for PFD in a single centre, which potentially could limit the generalisation of our results. However, since these patients were so bothered by their symptoms as to need evaluation at a referral centre, this would increase our likelihood of verifying our study hypothesis. In addition, another limitation of this study is that our evaluation included only the final UDS diagnosis and not the UDS parameters; however, this represents just a preliminary experience of a technology that, in our opinion, could bring impressive results.

We also acknowledge that our findings need further confirmation; in this respect, a case-control study would be welcome to verify how postoperative outcomes may be influenced by preoperative counselling also implemented by an ANN model.

5. Conclusions

The ANN represents a powerful instrument for the investigation of complex biologic models; however, UDS evaluation was found to be superior. On the basis of our results, we feel that it is not possible yet to make an accurate diagnosis only on the basis of clinical findings. Therefore, we feel that UDS still represents the gold standard for the assessment of urinary dysfunction and should be considered as mandatory before POP repair procedures in order to avoid unexpected outcomes.

Author contributions: Maurizio Serati had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Serati, Salvatore, Siesto.

Acquisition of data: Serati, Cattoni, Braga, Sorice.

Analysis and interpretation of data: Serati, Siesto.

Drafting of the manuscript: Serati, Siesto, Cattoni.

Critical revision of the manuscript for important intellectual content: Serati, Salvatore, Siesto, Cromi, Ghezzi.

Statistical analysis: Siesto, Cromi.

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Other (specify): None.

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